

Attorney Docket No.: **SIT-0106**  
Inventors: **Esche and Nazalewicz**  
Serial No.: **09/954,994**  
Filing Date: **September 19, 2001**  
Page 4

#### **REMARKS**

Claims 1 and 2 are pending in the instant application. Claims 1 and 2 have been rejected. Claims 1 and 2 have been amended. No new matter has been added by this amendment. Reconsideration is respectfully requested in light of the following remarks.

#### **I. Rejection of Claims Under 35 U.S.C. §102**

Claim 2 remains rejected under 35 U.S.C. §102(b) as being anticipated by JP-2000291725 (JP '725). The Examiner suggests that figure 2 of JP '725 shows a device for adaptive vibration attenuation comprising a passive isolator **14a, 18, 22, 28** with a non-linear force-deflection characteristic as disclosed in line 3 of the novelty section of the English abstract, wherein the passive isolator comprises a mechanical actuator **14a, 18, 22, 28** which varies an operating point of the passive isolator along the force-deflection characteristic and is comprised of a coiled spring **28**, a load supporting rod **18**, a non-linear spring **14a** and a means **22** for externally controlling a preload to the coiled spring whereby as the coiled spring force is varied, the load supporting rod transfers pressure to the non-linear spring via elements **12, 16, and 28**. It is further suggested that elements **18** and **22** are independent by the mere fact that they are two distinct elements and element **22** can move without causing movement of element **18**. Applicants respectfully disagree.

The abstract of JP '725 teaches a coiled spring **28**, a non-linear spring **14a** and an adjustment mechanism composed of rod **18**

Attorney Docket No.: **SIT-0106**  
Inventors: **Esche and Nazalewicz**  
Serial No.: **09/954,994**  
Filing Date: **September 19, 2001**  
Page 5

and nut **22**. In this regard, rod **18** is in contact with nut **22**. In contrast, Figure 2 of the present application depicts the instant device as being composed of four distinct elements, i.e., a coiled spring **58**, a load supporting rod **16**, a non-linear spring **14** and a means for externally controlling a preload to said coiled spring **60**, wherein the load support rod **16** and means for externally controlling a preload to said coiled spring **60** are not in direct contact. Accordingly, in an earnest effort to distinguish the instant device from that of the prior art, Applicants have amended claim 2 to indicate that the means for externally controlling a preload to the coiled spring is not in direct contact with the load supporting rod. Support for this amendment is found in Figure 2. Because JP '725 does not teach or suggest the arrangement of the elements of the device set forth in claim 2, this reference cannot be held to anticipate said device. It is therefore respectfully requested that this rejection be reconsidered and withdrawn.

## **II. Rejection of Claims Under 35 U.S.C. §103**

Claim 1 remains rejected under 35 U.S.C. §103(a) as being unpatentable over Shores et al. (U.S. Patent No. 6,361,031) in view of Wolf et al. (U.S. Patent No. 5,700,000). The Examiner suggests that Shores et al. teach a device for adaptive vibration attenuation comprising a passive isolator **22** with a force-deflection characteristic and an operating point wherein the passive isolator comprises a pneumatic actuator **44,62**, and vacuum actuated valves which vary the operating point of the isolator along the force-deflection characteristic wherein the pneumatic actuator comprises at least one upper pressure chamber **44**, a

Attorney Docket No.: **SIT-0106**  
Inventors: **Esche and Nazalewicz**  
Serial No.: **09/954,994**  
Filing Date: **September 19, 2001**  
Page 6

spring **22**, and one lower pressure chamber **26** independent of the upper pressure chamber wherein air pressure in the at least one upper pressure chamber can be externally controlled and wherein the natural frequency of the system is regulated by applying pressure to the upper pressure chamber or the lower pressure chamber, particularly the upper pressure chamber. The Examiner acknowledges that the Shores et al. do not disclose that the force-deflection characteristic of the passive isolator is non-linear or that the passive isolator or spring **22** is non-linear; however, Wolf et al. teach that the use of vibration attenuation device comprising a passive isolator or spring **2** with a non-linear force-deflection characteristic or being characterized as a non-linear spring. Further, it is suggested that upper chamber **44** is on one side of spring **22** and lower chamber **26** is on the other side of spring **22**. The Examiner suggests that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the passive isolator of Shores et al. to include the non-linear force-deflection characteristic of Wolf et al. in order to provide a means of allowing good dampening and preventing shaking even at large amplitudes of perturbation as taught by Wolf et al. Applicants respectfully disagree with this rejection.

As clearly illustrated in Figure 1, the pneumatic actuator of the instant device has disposed along its longitudinal axis a non-linear spring **14**, an upper pressure chamber **10** and lower pressure chamber **12**, wherein the upper pressure chamber **10** and lower pressure chamber **12** are on either side of non-linear spring **14**. Such an arrangement of elements is neither taught nor suggested by the cited prior art references. Thus, in an earnest

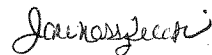
Attorney Docket No.: SIT-0106  
Inventors: Esche and Nazalewicz  
Serial No.: 09/954,994  
Filing Date: September 19, 2001  
Page 7

effort to distinguish the instant device from that of the prior art, Applicants have amended claim 1 to indicate that the non-linear spring, upper pressure chamber and one lower pressure chamber are disposed along the longitudinal axis of the pneumatic actuator. Because Shores et al. and Wolf et al. do not teach or suggest the elements arranged as required by the claim 1, these references cannot be held to anticipate the instant invention. It is therefore respectfully requested that this rejection be reconsidered and withdrawn.

### III. Conclusion

The Applicant believes that the foregoing comprises a full and complete response to the Office Action of record. Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Respectfully submitted,



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